34 Lecture - CS301

Important Mcqs

1. Which of the following is not a property of an equivalence relation?

- a. Reflexivity
- b. Symmetry
- c. Transitivity
- d. Antisymmetry

Answer: d. Antisymmetry

- 2. Which of the following is an example of an equivalence relation?
 - a. Greater than
 - b. Less than
 - c. Equality
 - d. Addition

Answer: c. Equality

3. An equivalence class is a set of elements that:

- a. Have the same value
- b. Are not related to each other
- c. Have the same property
- d. Have different properties

Answer: a. Have the same value

4. Which of the following is an example of a relation that is not an equivalence relation?

- a. Greater than or equal to
- b. Less than or equal to
- c. Not equal to
- d. None of the above

Answer: c. Not equal to

5. If xRy and yRz, then xRz is an example of which property of an equivalence relation?

- a. Reflexivity
- b. Symmetry
- c. Transitivity

d. None of the above

Answer: c. Transitivity

6. Which of the following is an example of a partition of a set?

a. {1, 2, 3}, {4, 5}, {6, 7, 8} b. {1, 3, 5}, {2, 4, 6} c. {a, b, c}, {d, e} d. All of the above Answer: a. {1, 2, 3}, {4, 5}, {6, 7, 8}

7. An equivalence relation can be defined on which of the following sets? a. Integers b. Rational numbers c. Real numbers

d. All of the above

Answer: d. All of the above

8. Which of the following is a common use of equivalence relations in computer science?

- a. Database design
- b. Sorting algorithms
- c. Graph theory
- d. Cryptography

Answer: a. Database design

9. Which of the following is an example of a non-trivial equivalence relation?

- a. Equality
- b. Greater than
- c. Less than
- d. Congruence modulo n

Answer: d. Congruence modulo n

10. Which of the following is an example of an equivalence relation on a set of colors?

- a. Lighter than
- b. Darker than
- c. Same hue
- d. None of the above

Answer: c. Same hue